

Work Order ID 87013***87013***

Page 1

Monday, July 09, 2012 3:50:01 PM

Item ID: D350-636-013

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Skidtube LH

Stop ***NS2***

Start Date: 7/10/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 7/24/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: *MLJ*Date: *12/07/10* Tooling:

Date:

Run Start ***NR1***

QC:

Date: SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2750

F

D3492

C

IIN-D350-636

I

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-013 CHG 006

*MLJ 12/08/10*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Stop ***NR2***Sequence ID/
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Run Hours

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Tool #

Plan
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QtyReject
QtyReject
NumberInsp.
Stamp

110

0.00

110

Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Pick D2600-3 Bent

2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750

3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.

4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting

5- Drill only two fwd step holes using DT9616. Ensure proper positioning.

6- Drill pilot holes as per Dwg D2750 sheet 4 (D2750-3 details). Drill using drill Jig DT8150 & DT8864A for first side only DT8864B for second side (detail B)

7- Clecko DT8864B on second side of tube and drill pilot holes for detail B.
SECOND SIDE

8- Open up holes for SECTION AW-AW to 0.375" (2 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open holes for ground handling and detail T to 0.500" (8 holes per side)

9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".

10-Open up holes of Detail A to 0.297" (total of 2 holes per side)

CF 12-7-26

B 12/07/31

Dart Aerospace Ltd

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SPC (Y/N):

Date:

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Set Up/
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Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left from bending as per QSI 004

A/R Aluminum Rod batch: M122130

BE 12/07/30
12/07/31

12-Grind welds flush as per Dwg D2750

120

QC10- Inspect visual per QSI004- ground welds

0.00

120

QC

Memo

0.00

Quality Control

DAS 16 12/06/01

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.00

Quality Control

DAS 13 12/06/01

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Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

Chemical Conversion Coat per QSI005 4.1

0.00

140

HandFinish

Memo

0.00

Hand Finishing

1 76 128-1

150

QC7-Inspect Chemical Conversion Coat

0.00

150

QC

Memo

0.00

Quality Control

1 B 12/08/0

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Page 5

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Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

0.00

160

Skidtubes

Skidtubes

Memo

0.00

1-Open up holes section AW-AW 0.500" (4 per side) as per dwg D2750

3-Open up holes of Detail T and ground handling to 0.625" (total of 8 holes per side Detail AV-AV) as per dwg D2750.

4-Chamfer holes of section AW-AW, AV-AV, T and ground handling. (welding instructions on sheet 10)

5-Deburr and blow out all chips from inside of tube. Prepare tube for welding, remove alodine as required.

6-Bond web D2739, in place as per QSI 015

A/R Sikaflex-291

batch: 122130

exp. date: 13103/14

7- Weld spacers D3490-1, D3490-5 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 10)

A/R Aluminum Rod

batch: 1122399

8-Grind welds flush as per Dwg D2750

9-Spot face ground handling holes (total of 4 places per side) as per dwg D2750

10-Deburr holes

SAD

12-08-01

BE 12/08/02

12/08/02

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Page 7

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1

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Process Plan:

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Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

200

Powdercoat

Memo

0.00

Powder Coating

START TIME: 2h05
OVEN TEMPERATURE: 320°F
FINISH TIME: 2h35

m 1214812

1 x (20) 12/08/09

210

QC3- Inspect Part Finish

0.00

210

QC

Memo

0.00

Quality Control

Inspect for foreign object per QSI 024

1 htl d M 12/08/15

220

HandFinishing

0.00

220

HandFinish

Memo

0.00

Hand Finishing

1-Install inserts as per dwg D2750

1 htl d M 12/08/15

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Page 8

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Run Start ***NR1***

QC: Date:

SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

230

0.00

230

HandFinish

HandFinishing

Memo

0.00

Hand Finishing

✓ 1-Inspect for Foreign Objects

✓ 2-Spray inside of tube with "LPS-3" batch: NLA

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

BATCH: 111122130

EXP DATE: 1310?

✓ 4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: 11121651

✓ 5-Coat all exposed fasteners with "LPS Procyon" batch: 11114956

1-HH & JL 11/08/15

240

QC5- Inspect part completeness to step on W/O

0.00

240

QC

Memo

0.00

Quality Control



17/08/15
SMB
12-8-15

W/O:		WORK ORDER CHANGES					
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Page 9

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Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

250

Pick Kit

0.00

250

Packaging

Memo

0.00

Packaging

12/8/20 sf

260

QC4- 100% Inspect kits for completeness

0.00

260

QC

Memo

0.00

Quality Control

DAC 16 12/08/21

270

Packaging

0.00

270

Packaging

Memo

0.00

Packaging

Package as per PPP D350-636-013

Rev I

12/8/21 sf

Dart Aerospace Ltd

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Page 10

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Date:

Tooling:

Date:

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QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00

280

QC

Memo

0.00

Quality Control

MLJ 12/08/22

MLJ 12/08/22

Dart Aerospace Ltd

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Picklist Print

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Parent Item Name: Skidtube LH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:H02.09.25Rearranged procedure steps KJ
 IPP rev I 06.03.30 Per rev. D dwg EC
 IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
 IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec IPP Rev:L 10.06.22 revise seq110
 DD verf:EC IPP Rev:M 10.10.01 as per IIN revH DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

ALS4-1032-225

Purchased

No

230

Each

2,888.0000

38

38

Insert

Location

Loc Qty

Loc Code

FP-B

2445

122290

2445

ST281

420

108696

146

110768

62

118386

55

118966

68

121269

89

ST282

23

120410

10

120451

13

x38

2108115

Dart Aerospace Ltd

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Parent Item Name: Skidtube LH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

230

Each

1,611.0000

34

34

Bolt

Location

Loc Qty

Loc Code

FP001

7

115835

7

ST350

1604

116419

28

117343

13

117764

7

117872

2

119749

23

120423

28

121255

469

121444

34

121708

500

122141

500

x34

AN3C6A

Purchased

No

230

Each

285.0000

4

4

BOLT

Location

Loc Qty

Loc Code

FP001

1

111982

1

ST351

284

111982

2

116419

23

116549

2

116704

12

117619

10

117688

1

117872

5

118422

13

119449

21

120423

3

120693

118

121682

74

y-1

Monday, July 09, 2012 3:50:00 PM

Shop Packet Print

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Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

AN6C44A Purchased No 230 Each 104.0000 4 *yl 4 12/08/15*

BOLT

Location	Loc Qty	Loc Code
FG	2	
103964	2	
ST343	102	
121013	11	<i>M 122491</i>
121440	41	<i>x4</i>
122204	50	

S AN8C21A
BOLT

Purchased No 250 Each 77.0000 2 *yl 2 12/08/15*

Location	Loc Qty	Loc Code
ST343	77	
118758	3	
121275	24	
<u>122204</u>	50	<i>2</i>

AN8C35A
BOLT

Purchased No 230 Each 61.0000 1 *yl 1 12/08/15*

Location	Loc Qty	Loc Code
FP002	60	
115960	1	
118286	9	
<u>121275</u>	50	
ST346	1	<i>yl</i>
114442	0	
115188	0	
115960	1	

AN960C10L
washer

NAS1149C0332R

Purchased No 230 Each 21.0000 38 *yl 38 12/08/15*

M 122063

Location	Loc Qty	Loc Code
ST	21	
107534	21	

Monday, July 09, 2012 3:50:00 PM

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Page 3

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Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D2600-3-BENT

Manufactured No

110 Each 33.0000

Extrusion Bent

CF 12-1-26

Location

Loc Qty

Loc Code

LG	33	
66875	7	
73253	1	
75021	1	
75022	1	
75023	1	
81330	4	
83305	1	
86330	17	

D2739

Manufactured No

160 Each 14.0000

350 I Beam

SAD 12-08-01

Location

Loc Qty

Loc Code

LG	14	
72155	1	
81508	1	
83448	2	
83548	1	
85486	5	
86615	4	

B 85487

~~83734~~

①

D2741

Manufactured No

250 Each 34.0000

Blade, 350 Skidtube

12/8/20 sf

Location

Loc Qty

Loc Code

ST	-10	
ST466	44	
71856	1	
83135	33	

Monday, July 09, 2012 3:50:01 PM

Shop Packet Print

Page 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 09, 2012 3:50:01 PM

Page 5

Work Order ID: 87013

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D2743

Manufactured No

220

Each

152.0000

8

8

Crossbolt Spacer

Location

Loc Qty

Loc Code

LG

78

81965

23

83262

55

LG001

74

67766

4

68251

3

73403

64

74445

1

79517

2

BE 12/08/02
B 85459 1 8

D2744

Manufactured No

160

Each

60.0000

1

1

Cap

Location

Loc Qty

Loc Code

LG002

60

62715

1

83412

21

85506

38

BE 12/07/00

D2745

Manufactured No

230

Each

258.0000

8

8

Bushing

Location

Loc Qty

Loc Code

FP

206

79518

6

85416

200

FP001

52

69529

1

76142

1

83260

50

12/08/15

X 8

Monday, July 09, 2012 3:50:01 PM

Shop Packet Print

Page 5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 09, 2012 3:50:01 PM

Page 6

Work Order ID: 87013

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D3488-041
Blade Fitting Assembly, LH

Manufactured No

230 Each 29.0000

1 11/12/08/15

Location	Loc Qty	Loc Code
FP001	12	
85807	12	
FP002	17	
83407	10	
85733	7	

x1

D3490-1
Cross Bolt Spacer

Manufactured No

160 Each 79.0000

4 4

BE 12/08/02

Location	Loc Qty	Loc Code
LG	68	
81976	2	
85419	66	
LG001	11	
62450	2	
74875	4	
77042	3	
83269	2	

4

D3490-5
Cross Bolt Spacer

Manufactured No

160 Each 31.0000

4 4

BE 12/08/02

Location	Loc Qty	Loc Code
LG001	31	
83373	31	

4

D3492-1
Plug *

Manufactured No

230 Each 205.0000

8 11/12/08/15

Location	Loc Qty	Loc Code
FP002	198	
69531	8	
74444	2	
76235	4	
83259	184	
FP-A	7	
83098	7	

1387662

x1

x7

Monday, July 09, 2012 3:50:01 PM

Shop Packet Print

Page 6

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

Picklist Print

Monday, July 09, 2012 3:50:01 PM

Page 7

Work Order ID: 87013

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D3492-5
Plug

Manufactured No

230 Each 135.0000

8 *HL* 8 *12/08/15*

Location

Loc Qty

Loc Code

lpa

135

83100

34

83530

101

XS

D3492-1
Washer

Manufactured No

110 Each 97.0000

2 2

Location

Loc Qty

Loc Code

ST050

97

77573

1

82023

2

83097

94

D3535-25
Wearshoe

Manufactured No

230 Each 32.0000

1 *HL* 1 *12/08/15*

Location

Loc Qty

Loc Code

FP001

32

62233

1

81357

1

83387

17

83899

13

XL

D3536-25
Gasket

Manufactured No

230 Each 22.0000

1 *HL* 1 *12/08/15*

Location

Loc Qty

Loc Code

FP

22

83391

6

83900

16

XL

Monday, July 09, 2012 3:50:01 PM

Shop Packet Print

Page 7

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 09, 2012 3:50:01 PM

Page 8

Work Order ID: 87013

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D3537-1 Manufactured No 230 Each 112.0000

Wearpad

3 HL 3 12/08/15

Location	Loc Qty	Loc Code
FP002	112	
81362	3	
83254	1	
83255	3	
83256	20	
85457	37	
85458	48	

D3631-1 Manufactured No 230 Each 283.0000

Washer

8 HL 8 12/08/15

Location	Loc Qty	Loc Code
FG	268	
81874	2	
83588	266	
ST072	15	
68062	2	
75548	13	

D3791-1 Manufactured No 230 Each 26.0000

Wearplate

1 HL 1 12/08/15

Location	Loc Qty	Loc Code
FP002	26	
62239	2	
83392	12	
83902	12	

D3793-1 Manufactured No 230 Each 26.0000

Wearshoe

1 HL 1 12/08/15

Location	Loc Qty	Loc Code
FP001	26	
82171	2	
83393	11	
83903	13	

Monday, July 09, 2012 3:50:01 PM

Shop Packet Print

Page 8

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 09, 2012 3:50:01 PM

Page 9

Work Order ID: 87013

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

D3793-3 Wearshoe	Manufactured	No	230	Each	28.0000	1	1	12/08/15
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>			
			FP001	28				
			83394	16				
			<u>83901</u>	12				
D3794-1 Gasket	Manufactured	No	230	Each	24.0000	1	1	12/08/15
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>			
			FP	4				
			82167	4				
			FP002	20				
			<u>83395</u>	20				
D3794-3 Gasket	Manufactured	No	230	Each	45.0000	1	1	12/08/15
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>			
			FP	19				
			<u>83396</u>	19				
			FP002	26				
			74530	2				
			86243	24				
MS21043-6 NUT	Purchased	No	230	Each	586.0000	4	4	12/08/15
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>			
			FG	20				
			103693	20				
			ST301	566				
			117887	2				
			118384	64				
			<u>120308</u>	500				

Monday, July 09, 2012 3:50:01 PM

Shop Packet Print

Page 9

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 09, 2012 3:50:01 PM

Page 10

Work Order ID: 87013

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

230

Each

94.0000

NUT

1 all 12/08/15

Location

Loc Qty

Loc Code

304

39

121185

22

121349

17

FP002

1

115884

1

ST303

4

115884

0

118077

1

119309

2

119638

1

ST321

50

122141

50

Y \

MS21083C8

Purchased

No

250

Each

94.0000

NUT

2 M122452 12/8/2012

Location

Loc Qty

Loc Code

304

39

121185

22

121349

17

FP002

1

115884

1

ST303

4

115884

0

118077

1

119309

2

119638

1

ST321

50

122141

50

Monday, July 09, 2012 3:50:01 PM

Shop Packet Print

Page 10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 09, 2012 3:50:01 PM

Page 11

Work Order ID: 87013

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0832R
WASHER

Purchased

No

230

Each

250.0000

1

12/08/15

Location

Loc Qty

Loc Code

ST297

250

114915

250

X1

NAS1149D0863J
WASHER

Purchased

No

250

Each

221.0000

2

2

sp

Location

Loc Qty

Loc Code

ST298

221

118078

34

119307

1

120308

86

121556

100

2

NAS1515H3L
WASHER

Purchased

No

230

Each

311.0000

4

4

12/08/15

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

271

118686

3

120360

11

121556

57

122151

200

X4

NAS1611-005
O-RING

Purchased

No

230

Each

140.0000

8

8

12/08/15

Location

Loc Qty

Loc Code

FP001

140

106099

18

114220

46

119438

36

121415

40

X8

Monday, July 09, 2012 3:50:01 PM

Shop Packet Print

Page 11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Monday, July 09, 2012 3:50:01 PM

Page 12

Work Order ID: 87013

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

Start Date: 7/10/2012

Required Date: 7/24/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased

No

230

Each

416.0000

8

8

O-RING

21/09/15

Location

Loc Qty

Loc Code

FP001

416

110915

14

117460

8

118077

1

118612

3

119438

47

121259

2

121584

2

121723

39

122151

300

x 9

Monday, July 09, 2012 3:50:01 PM

Shop Packet Print

Page 12

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	1	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN8C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- 1) MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- 8) WELD PER DART QSI 004
- 9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- 10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

RELEASED

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/3 REPLACES D3535-13/35 (ZN C8-1); D3794-1/3 REPLACES D3536-13/35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS; CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741; QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEO 9133/9157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	DART AEROSPACE USA, INC.		
DRAWN	PORT HADLOCK, WA		
CHECKED	DRAWING NO.	REV. F	
MFG. APPR.	D2750	SHEET 1 OF 11	
APPROVED	TITLE	SCALE	
DE APPR.	350 SKIDTUBE ASSEMBLY	NTS	
DATE	08.07.16	COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COME OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

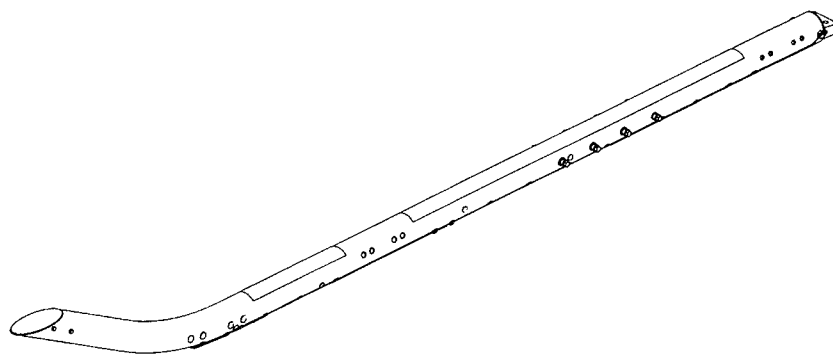
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

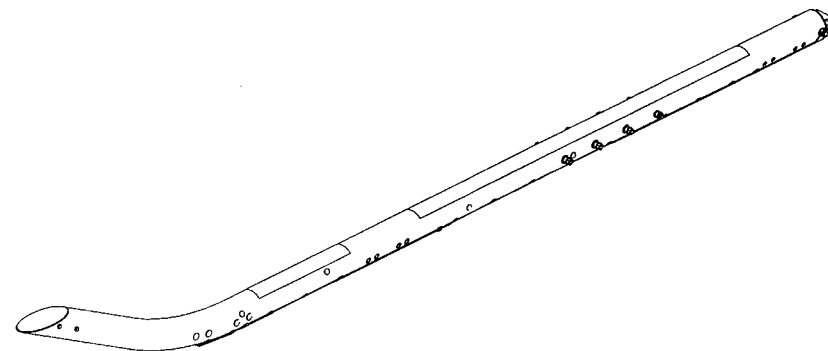
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D2750-041 350 SKIDTUBE ASSEMBLY, LH



D2750-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED
18-09-22-14

DESIGN	PC	DART AEROSPACE USA, INC.	
DRAWN	PA	PORT HADLOCK, WA	
CHECKED	SA	DRAWING NO.	REV. F
MFG. APPR.	MA	D2750	SHEET 2 OF 11
APPROVED	MA	TITLE	SCALE
DE APPR.	MA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

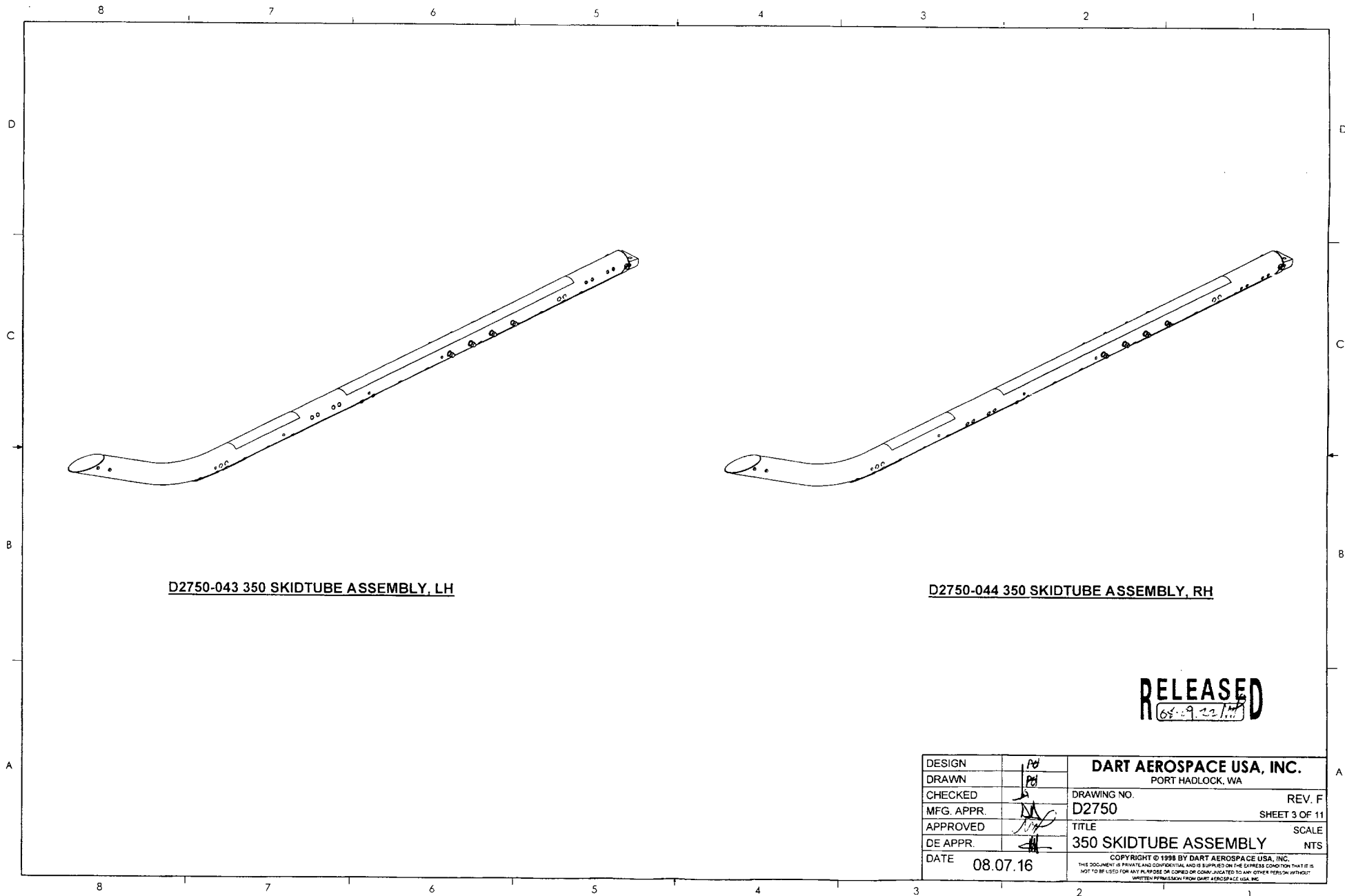
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



RELEASED
68-09-22/100

DESIGN	PD	DART AEROSPACE USA, INC.	
DRAWN	PD	PORT HADLOCK, WA	
CHECKED	J	DRAWING NO.	REV. F
MFG. APPR.	DA	D2750	SHEET 3 OF 11
APPROVED	DA	TITLE	SCALE
DE APPR.	DA	350 SKIDTUBE ASSEMBLY	NTS
DATE	08.07.16	<small>COPYRIGHT © 1998 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMPILED TO ANY OTHER PERSON OR ENTITY WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

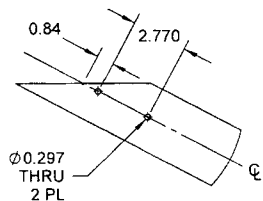
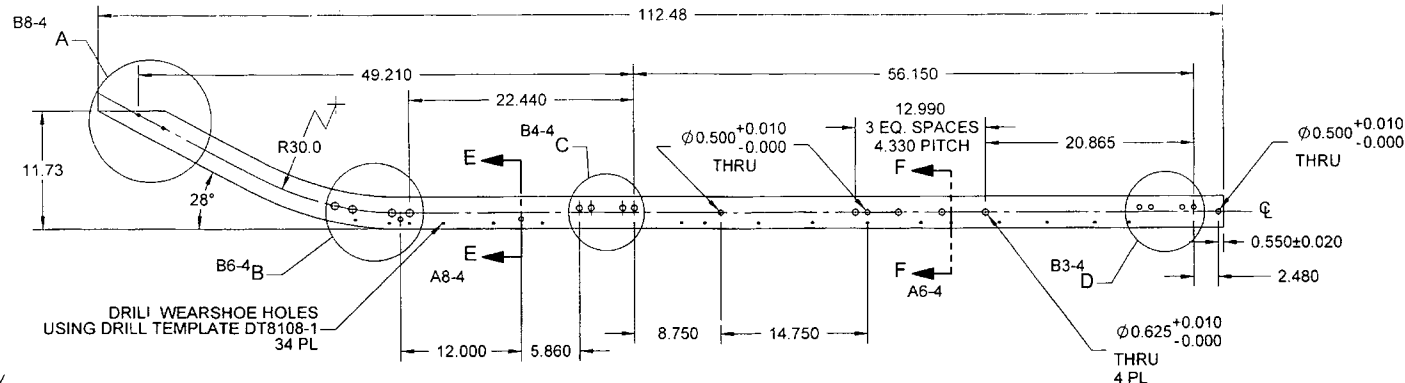
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

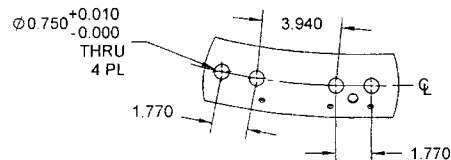
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

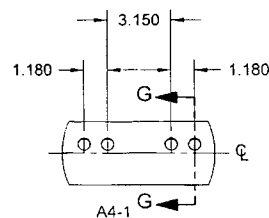
D2750-1 LH SKIDTUBE



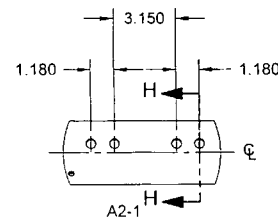
DETAIL A
SCALE 2X



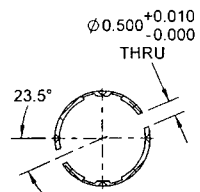
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SCALE 2X



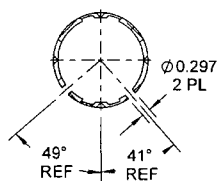
DETAIL C
SCALE 2X



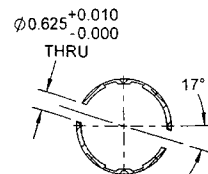
DETAIL D
SCALE 2X



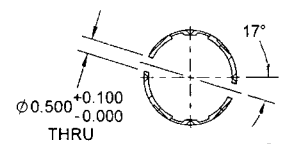
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

RELEASED

DESIGN	PM	DART AEROSPACE USA, INC.
DRAWN	PM	PORT HADLOCK, WA
CHECKED		DRAWING NO. D2750
MFG. APPR.		REV. F
APPROVED		SHEET 4 OF 11
DE APPR.		TITLE 350 SKIDTUBE ASSEMBLY
DATE	08.07.16	SCALE NTS

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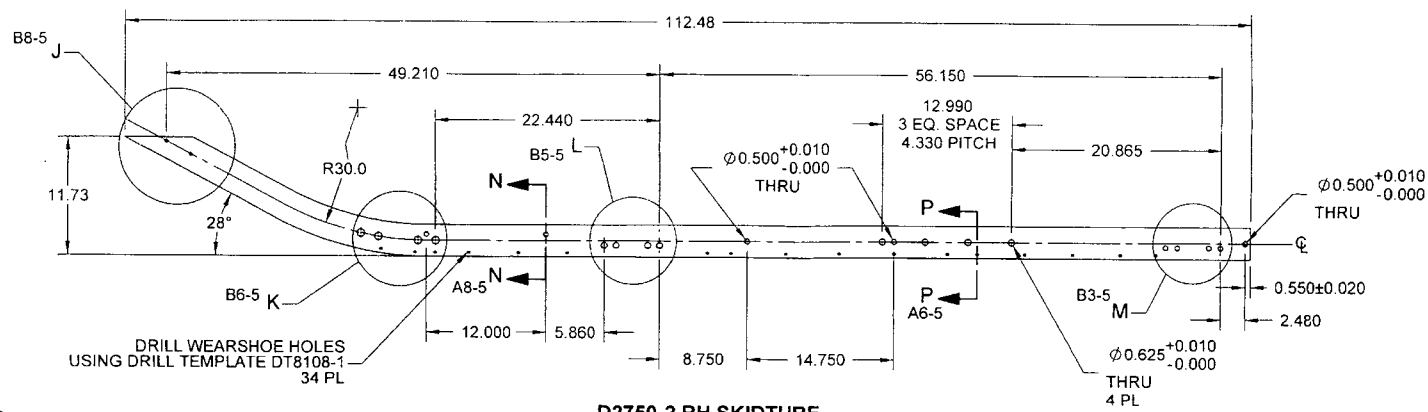
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

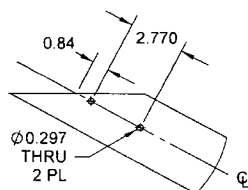
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

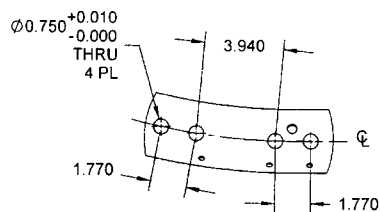
NOTE: Date & initial all entries



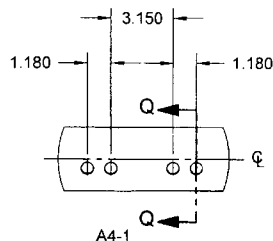
D2750-2 RH SKIDTUBE



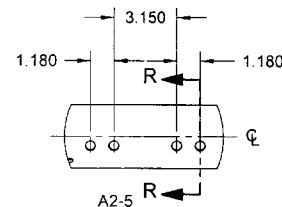
DETAIL J
SCALE 2X



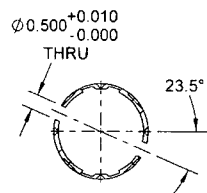
DETAIL K
SCALE 2X



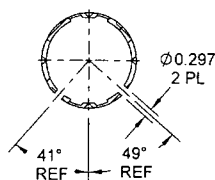
DETAIL L
SCALE 2X



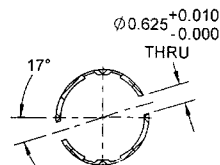
DETAIL M
SCALE 2X



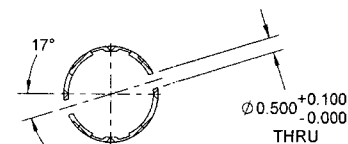
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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DESIGN	PA	DART AEROSPACE USA, INC.	
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MFG. APPR.		D2750	SHEET 5 OF 11
APPROVED		TITLE	SCALE
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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8

7

6

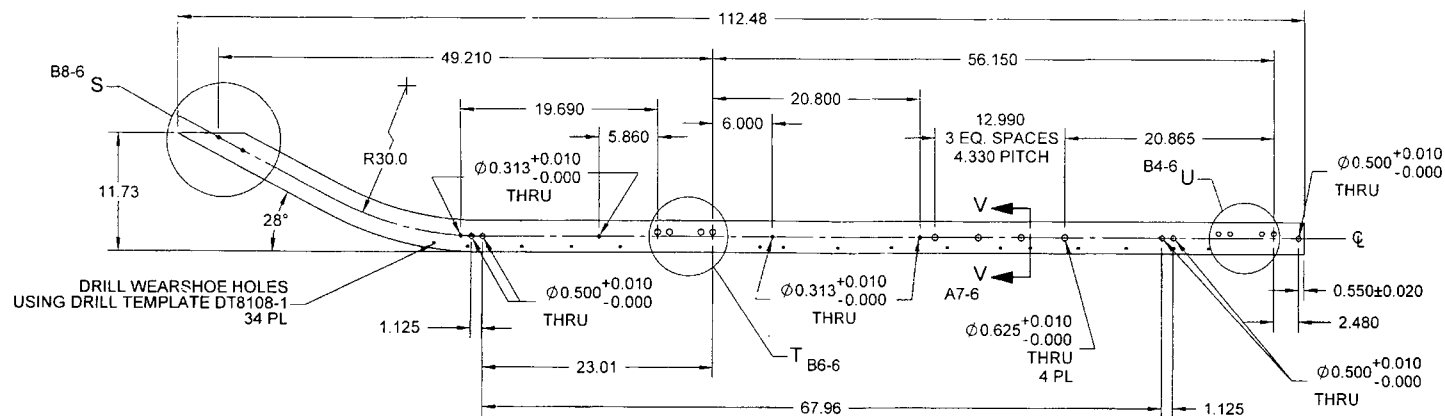
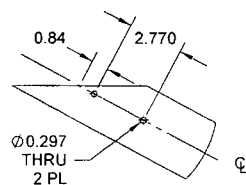
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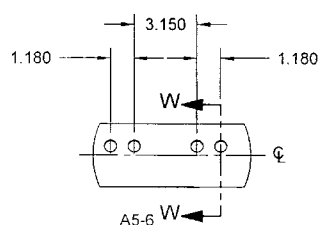
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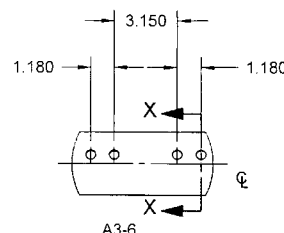
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**D2750-3 LH SKIDTUBE****DETAIL S**
SCALE 2X

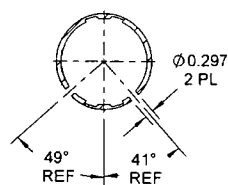
D8-6

**DETAIL T**
SCALE 2X

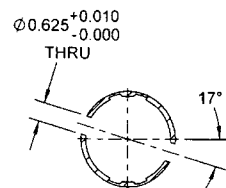
C5-6

**DETAIL U**
SCALE 2X

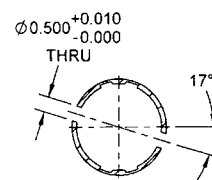
D3-6

**SECTION V-V**
SCALE 3X, 17 PL

C4-6







**SECTION W-W**
SCALE 3X, 4 PL

B6-6

**SECTION X-X**
SCALE 3X, 4 PL

B4-6

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MFG. APPR.		D2750	SHEET 6 OF 11
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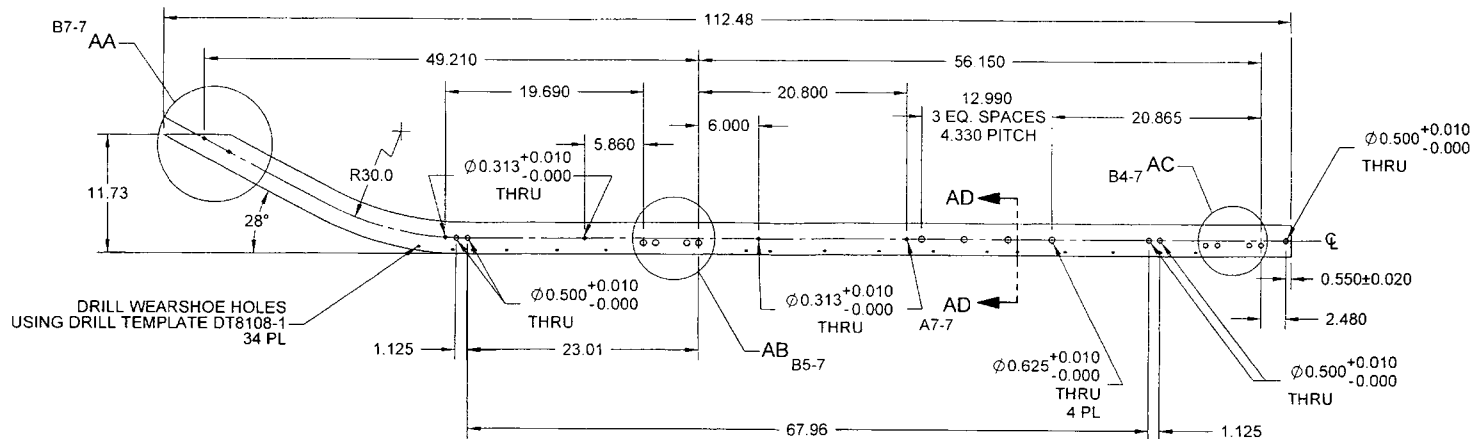
Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

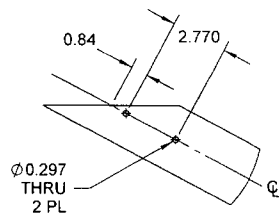
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 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

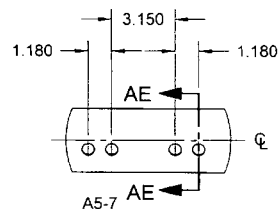
NOTE: Date & initial all entries



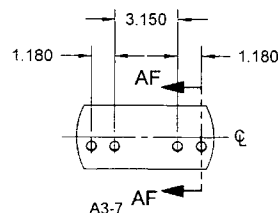
D2750-4 RH SKIDTUBE



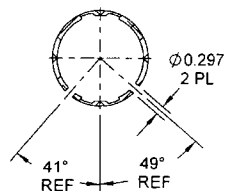
DETAIL AA
SCALE 2X



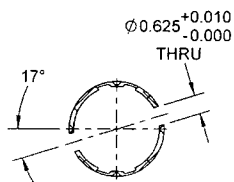
DETAIL AB
SCALE 2X



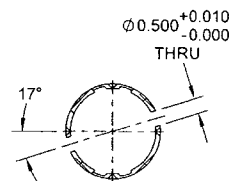
DETAIL AC
SCALE 2X



SECTION AD-AD
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

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DESIGN		DART AEROSPACE USA, INC.	
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MFG. APPR.		SHEET 7 OF 11	
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

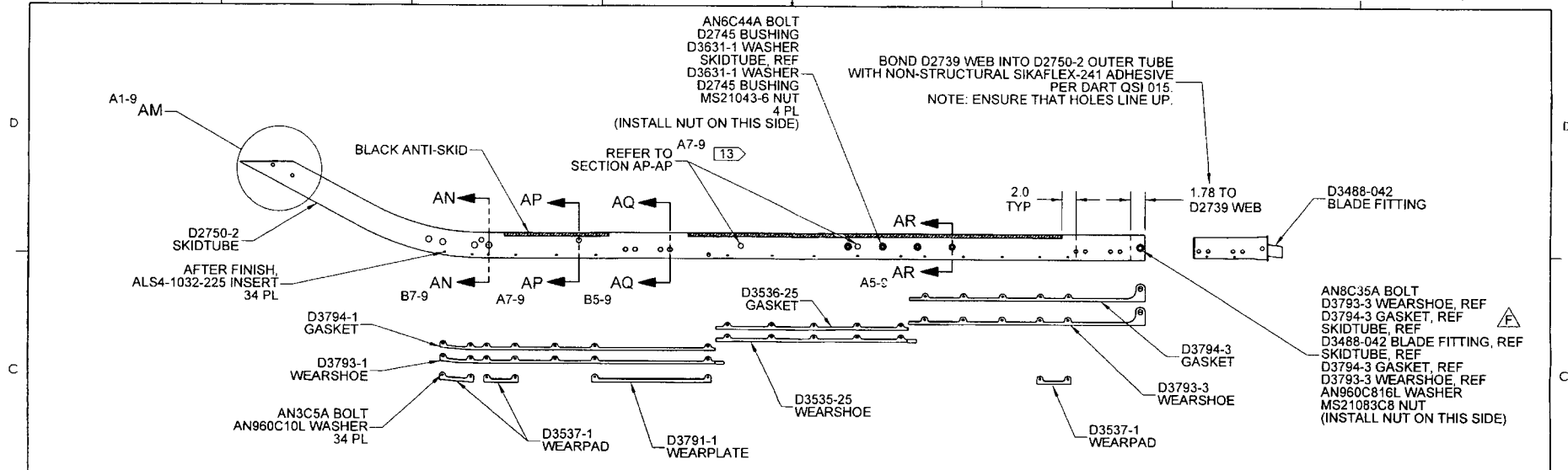
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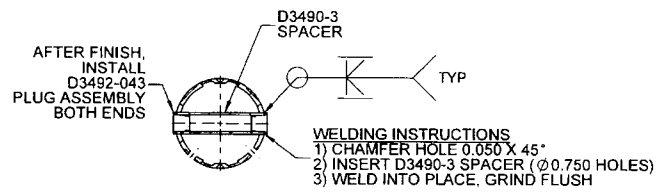
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

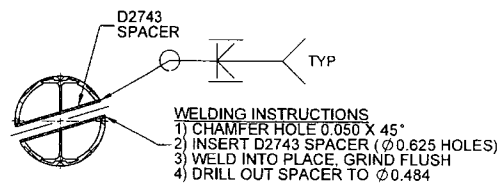
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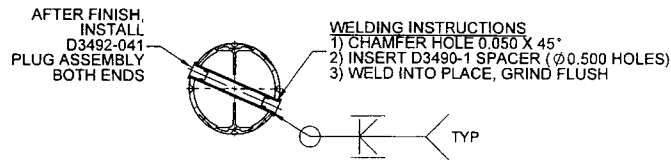
D2750-042 350 SKIDTUBE ASSEMBLY, RH



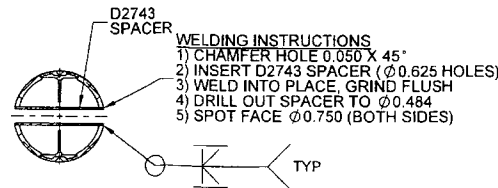
SECTION AN-AN
SCALE 3X, 4 PL



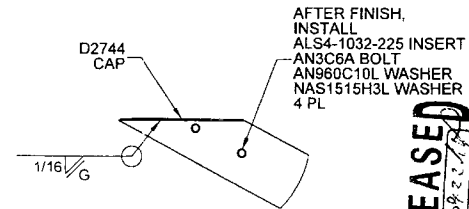
SECTION AQ-AQ
SCALE 3X, 4 PL



SECTION AP-AP
SCALE 3X, 4 PL



SECTION AR-AR
SCALE 3X, 4 PL
(HARDWARE REMOVED FOR CLARITY)



DETAIL AM
SCALE 2X

DESIGN	PH	DART AEROSPACE USA, INC.	
DRAWN	PH	PORT HADLOCK, WA	
CHECKED	AE	DRAWING NO.	REV. F
MFG. APPR.	MD	D2750	SHEET 9 OF 11
APPROVED	MD	TITLE	SCALE
DE APPR.	MD	350 SKIDTUBE ASSEMBLY	NTS
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2008-08-22

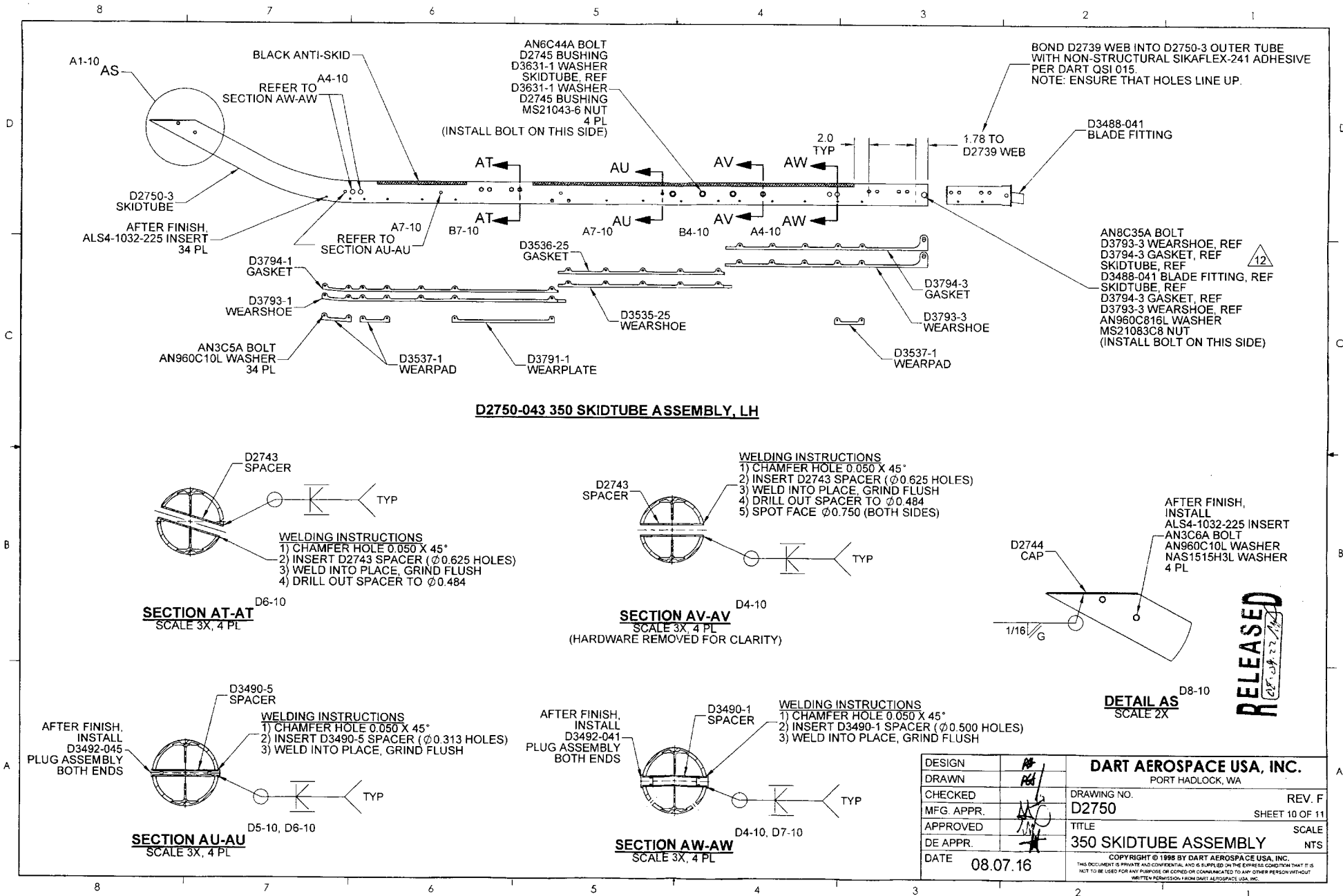
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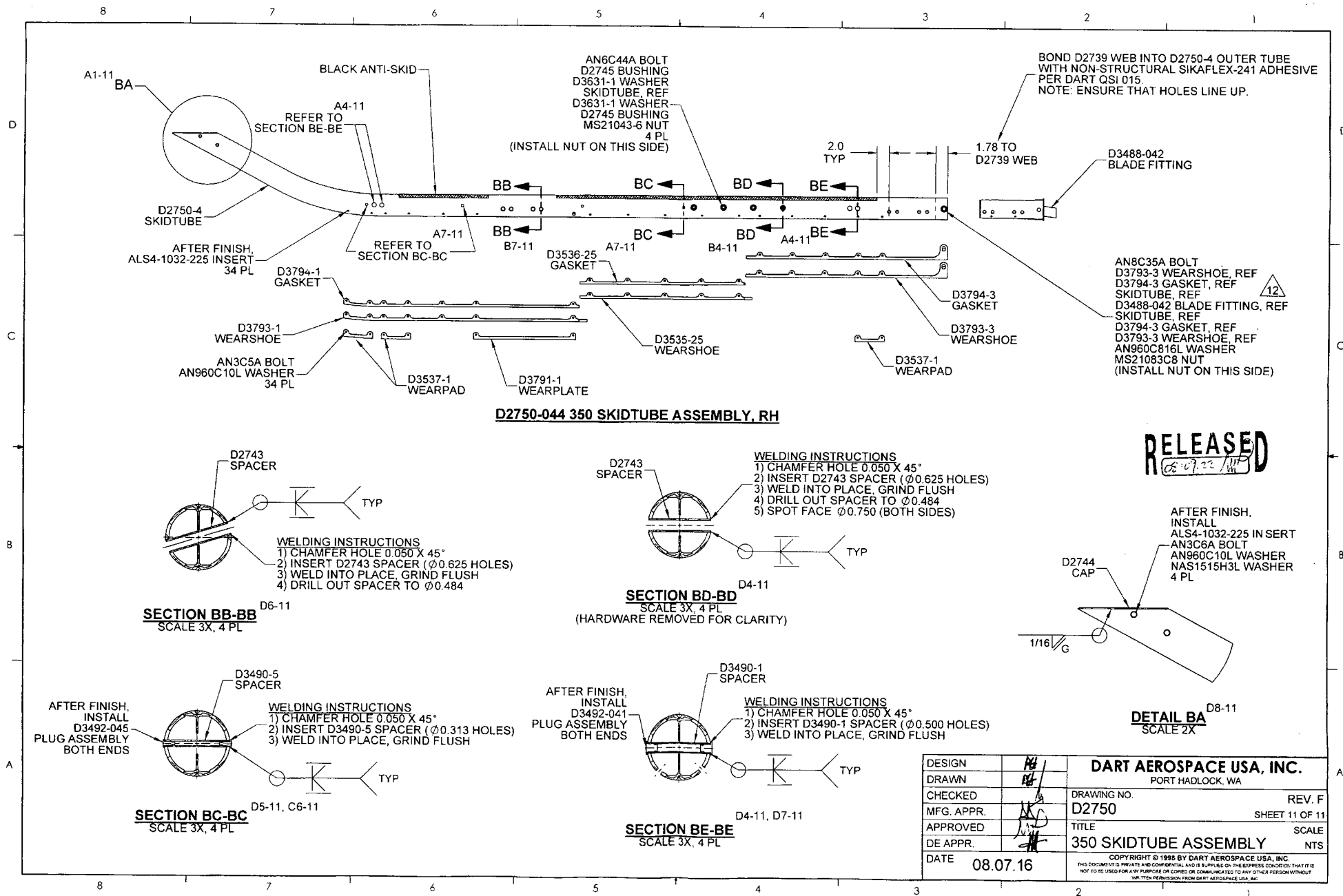
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 300

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job #: 87941
Part #: D350-636-011
Description: Seal
Welding Process: Tig[☒] Mig[]
Base materiel: Alum.
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual:	pass[<input checked="" type="checkbox"/>]	fail[]
Incomplete Penetration:	pass[<input checked="" type="checkbox"/>]	fail[]
Incomplete Fusion:	pass[<input checked="" type="checkbox"/>]	fail[]
Cracks:	pass[<input checked="" type="checkbox"/>]	fail[]
Overlap (cold lap)	pass[<input checked="" type="checkbox"/>]	fail[]
Undercut:	pass[<input checked="" type="checkbox"/>]	fail[]
Pin holes:	pass[<input checked="" type="checkbox"/>]	fail[]
Porosity (surface):	pass[<input checked="" type="checkbox"/>]	fail[]
Coloration:	pass[<input checked="" type="checkbox"/>]	fail[]
Burn through:	pass[<input checked="" type="checkbox"/>]	fail[]

Qualifier David David Date of Test Coupon 12.07.20
Welder Barclay Elliott Date of Test Coupon 12-07-24

The above named individual is qualified in accordance with AWS D17.1.2001 to weld